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ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/6 4/2
18201A SIG-D, MISSILE NUMBER 7, ROUND NUMBER 3, 19 MARCH 1980.(U)
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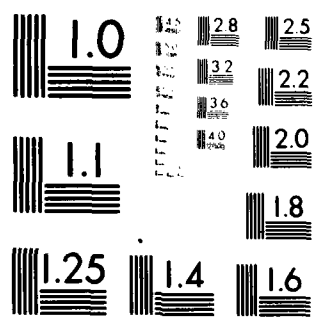
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METEOROLOGICAL DATA REPORT

18201A SIG-D
Missile Number 7
Round Number 3
19 March 1980

by

White Sands Meteorological Team

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ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

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18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of 18201A SIG-D, Missile Number 7 and Round Number 3 are presented in tabular form.		

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INTRODUCTION

18201A SIG-D _____, Missile Number 7 _____, Round Number 3 _____,
was launched from LC-33 _____, White Sands Missile Range (WSMR), New Mexico,
at 0829:10 MST on 19 March 1980 _____. The scheduled launch time was
0800 MST _____.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), Wind direction and speed, and cloud cover were made at the LC-33 _____ Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pibal observation at:

SITE AND ALTITUDE

LC-33 2730 Meters

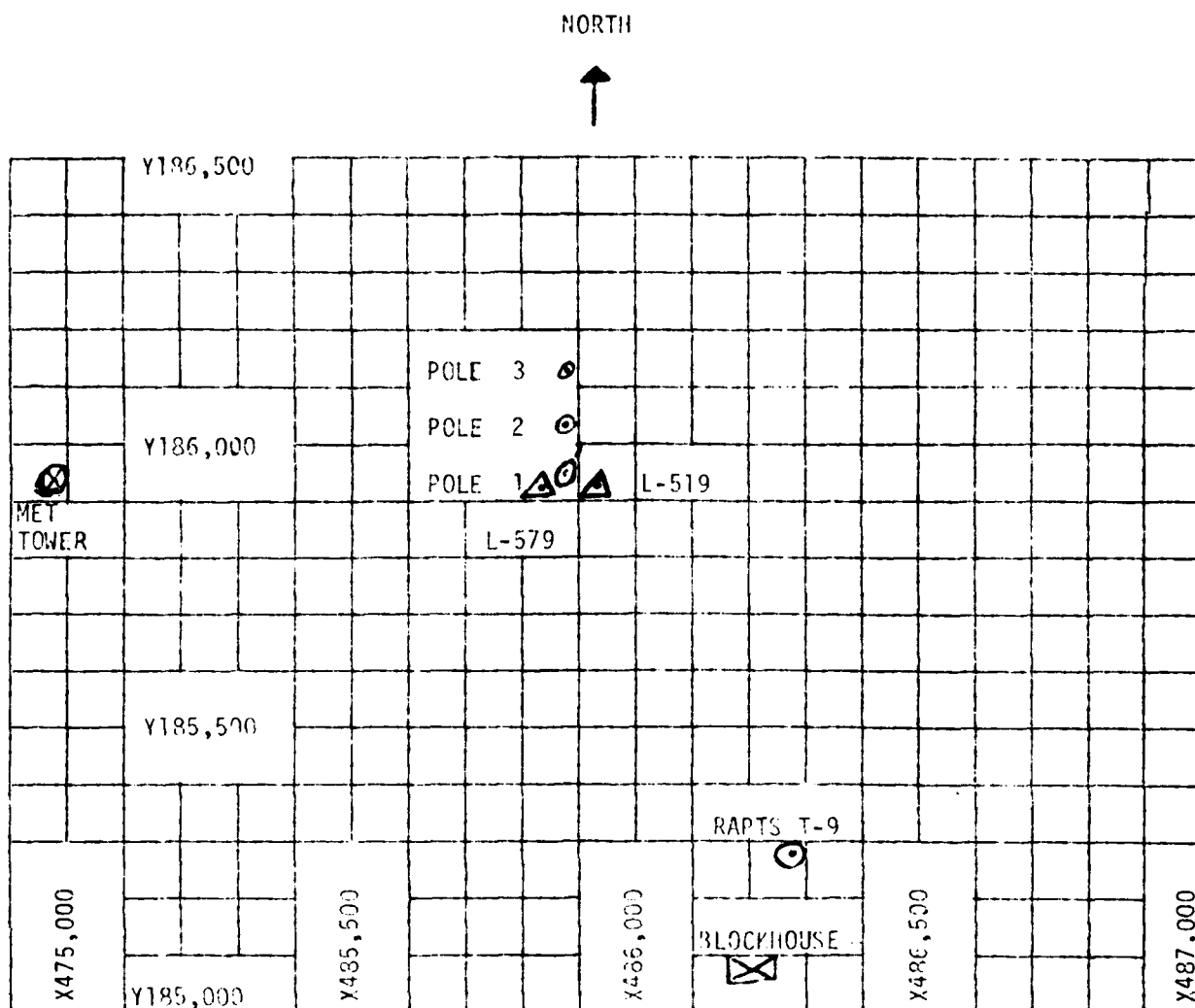
(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to high as possible _____ feet in 500-foot increments.

SITE AND TIME

WSD 0750 MST

APA 0730 MST

NW 30 0750 MST



1. MET TOWER - 4 Bendix Model T-20 Anemometers at 12 ft, 62 ft, 102 ft, and 202 ft with E/A recorders.
2. POLE ANEMOMETER - Bendix Model T-120 with E/A recorders.
 - (a) Pole #1 - 38.7 ft.
 - (b) Pole #2 - 53.0 ft.
 - (c) Pole #3 - 83.6 ft.
3. RAPTS T-9 Radar Automatic Pilot-Balloon Tracking System T-9 Radar.

TABLE 1. Surface Observations taken at 0829 MST,
19 March 1980, at LC-33, 18201A SIG-D,
Missile Number 7, Round Number 3.

ELEVATION	3977.30	FT/MSL
PRESSURE	874.1	MBS
TEMPERATURE	13.0	°C
RELATIVE HUMIDITY	27	
DEW POINT	-5.7	°C
DENSITY	1060	GM/M ³
WIND SPEED	08	KTS
WIND DIRECTION	166	DEGREES
CLOUD COVER	1	CI

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1 X485,874.29 Y185,958.90 H4018.74 88.7 ft. AGL			POLE #2 X485,874.93 Y185,012.00 H4033.57 93.0 ft. AGL			POLE #3 X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	158	11	-30	152	11	-30	159	11
-20	135	13	-20	150	09	-20	155	09
-10	140	14	-10	142	12	-10	153	12
0.0	144	13	0.0	156	11	0.0	155	11
+10	140	11	+10	154	10	+10	150	13

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	155	09	-30	153	11
-20	153	09	-20	163	12
-10	152	09	-10	174	11
0.0	166	08	0.0	172	10
+10	162	10	+10	168	12

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	146	12	-30	150	13
-20	158	11	-20	137	11
-10	165	11	-10	150	10
0.0	158	11	0.0	145	11
+10	170	11	+10	153	14

PILLOT BALLOON MEASURED WIND DATA

TABLE 4

RELEASED FROM LC-33 DATE 19 March 1980 TIME 0829 MST
 RELEASE POINT COORDINATES (WSTM) X 486,037.24 Y 182,350.16 Z 3977.30

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

HEIGHTS ARE METERS AGL XX OR FEET AGL

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC	166	08
30	256	05
60	236	02
90	250	07
120	173	12
150	184	13
180	195	14
210	193	16
240	191	17
270	198	19
300	204	21
330	204	22
360	203	23
390	192	15
420	MISG	MISG
450	198	15
480	216	24
510	215	23
540	215	24
570	213	24
600	212	24
630	211	25
660	214	27
690	216	30
720	215	31
750	213	31
780	212	30
810	210	29
840	210	29
870	210	28
900	210	28

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
930	209	27
960	211	30
990	212	32
1020	202	33
1050	211	33
1080	212	33
1110	212	33
1140	212	31
1170	212	29
1200	212	30
1230	211	31
1260	211	30
1290	211	29
1320	211	27
1350	211	26
1380	209	26
1410	207	26
1440	207	24
1470	206	23
1500	270	25
1530	334	26
1560	209	27
1590	211	27
1620	212	28
1650	212	27
1680	215	26
1710	218	24
1740	218	26
1770	218	31
1800	219	32
1830	220	32

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
1860	223	31
1890	226	29
1920	226	29
1950	226	29
1980	230	33
2010	223	37
2040	232	40
2070	230	43
2100	230	44
2130	229	45
2160	232	45
2190	235	44
2220	220	49
2250	223	53
2280	232	49
2310	232	52
2340	230	54
2370	228	56
2400	229	57
2430	230	56
2460	230	57
2490	230	56
2520	231	55
2550	231	56
2580	232	55
2610	232	55
2640	233	58
2670	233	60
2700	234	59
2730	234	57

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

SIGNIFICANT LEVEL DATA
0790020100
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
19 MAR. 60 0750 HRS MST
ASCENSION NO. 100

TABLE 5

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
874.0 3983.0	10.0 -5.5	33.0
850.0 4749.1	10.4 -0.8	25.0
828.4 5452.0	10.3 -8.0	25.0
738.8 8533.5	2.3 -13.5	30.0
700.0 9960.5	.6 -17.1	25.0
655.6 11674.6	-3.7 -23.9	19.0
630.2 12371.9	-4.3 -25.0	17.0
604.0 13790.6	-7.1 -25.7	21.0
555.8 15905.4	-11.2 -30.2	19.0
500.0 18544.6	-17.2 -35.0	18.0
447.4 21253.6	-23.2 -39.6	20.0
400.0 23716.5	-29.6 -44.0	23.0
354.6 26706.4	-36.2 -49.4	24.0
332.0 28197.1	-40.5	
300.0 30446.6	-45.4	
250.0 34376.7	-53.9	
242.0 35062.2	-55.4	
233.0 35854.0	-55.6	
228.6 36258.9	-54.8	
219.0 37111.5	-51.5	
211.4 37925.2	-51.6	
200.0 39106.9	-52.9	
178.8 41474.3	-55.6	
167.0 42908.8	-55.4	
150.0 45152.0	-58.1	
126.2 48715.3	-61.1	
115.8 50482.9	-50.7	
112.2 51131.6	-61.4	
105.6 52369.4	-62.3	
102.2 53038.9	-60.6	
100.0 53485.9	-60.6	
85.6 56644.3	-65.1	
72.8 59902.1	-65.4	
70.0 60697.6	-61.4	
63.4 62730.6	-60.4	
57.0 64796.9	-65.0	
54.0 65992.0	-62.3	
50.0 67559.0	-63.4	
44.6 69884.6	-62.4	
41.0 71320.7	-57.8	

STATION ALTITUDE 3939.00 FEET MSL
 10 MAR. 80
 ASCENSION NO. 100

SIGNIFICANT LEVEL DATA

0700020100
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 5 (CONT)

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE	
38.6 72871.7	-60.4		
35.0 74560.0	-54.9		
30.0 78147.1	-53.6		
26.2 80289.8	-54.4		
20.0 86714.3	-54.4		
17.2 89922.0	-53.3		
11.3 99039.8	-45.6		

STATION ALTITUDE 9989.30 FEET MSL
19 APR. 80 0750 HRS MST
ASCESSION NO. 100

UPPER AIR DATA
0790020100
WHITE SANDS

GEODETIC COORDINATES
32.46043 LAT DEG
106.37033 LON DEG

TABLE 6

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	REL HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION, DEGREES (IN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3089.0	874.0	10.0	33.0	1073.4	650.1	160.0	4.1	1.000258
4000.0	873.6	10.0	32.9	1073.0	656.1	161.2	4.1	1.000259
4500.0	857.9	10.3	27.6	1052.8	650.4	189.2	8.0	1.000251
5000.0	842.2	10.4	25.0	1033.4	650.4	198.1	12.6	1.000245
5500.0	820.9	10.2	25.1	1015.3	650.2	202.2	17.2	1.000241
6000.0	811.7	8.9	25.9	1001.3	650.2	205.4	20.6	1.000237
6500.0	793.8	7.6	26.7	987.4	653.2	209.3	21.7	1.000233
7000.0	782.1	6.3	27.5	973.8	651.6	210.0	22.5	1.000230
7500.0	767.7	5.0	28.3	960.4	650.1	209.7	22.9	1.000226
8000.0	750.6	3.7	29.1	947.2	648.0	209.7	23.5	1.000222
8500.0	739.7	2.4	29.9	934.2	647.0	210.4	24.1	1.000219
9000.0	725.4	1.7	28.4	919.0	646.2	213.3	23.8	1.000215
9500.0	712.3	1.1	26.6	903.0	645.5	217.3	23.2	1.000210
10000.0	698.9	.5	24.9	889.0	644.7	223.2	25.3	1.000206
10500.0	685.7	-8	23.1	870.3	643.2	229.1	28.6	1.000202
11000.0	672.7	-2.0	21.4	863.8	641.7	231.7	35.0	1.000198
11500.0	660.0	-3.3	19.6	851.4	640.2	234.1	40.5	1.000195
12000.0	647.4	-4.0	18.1	837.5	639.3	235.8	44.0	1.000191
12500.0	635.0	-4.6	17.4	823.3	638.6	237.0	46.5	1.000187
13000.0	622.8	-5.5	18.8	810.4	637.4	237.7	48.2	1.000185
13500.0	610.9	-6.5	20.2	797.8	636.3	237.9	49.6	1.000182
14000.0	599.0	-7.5	20.8	785.2	635.1	238.0	51.0	1.000179
14500.0	587.4	-8.5	20.3	772.8	633.9	238.0	52.9	1.000176
15000.0	575.9	-9.4	19.9	760.6	632.8	235.0	54.9	1.000173
15500.0	564.7	-10.4	19.4	748.5	631.0	234.5	56.9	1.000170
16000.0	553.7	-11.4	19.0	736.7	630.4	233.5	59.0	1.000167
16500.0	542.7	-12.6	18.8	725.3	629.0	233.9	60.1	1.000164
17000.0	531.9	-13.7	18.6	714.0	627.0	234.3	61.1	1.000161
17500.0	521.4	-14.8	18.4	702.9	626.2	235.5	61.2	1.000159
18000.0	511.0	-16.0	18.2	692.0	624.8	236.7	61.5	1.000156
18500.0	500.4	-17.1	18.0	681.3	623.5	237.5	62.6	1.000153
19000.0	490.7	-18.2	18.3	670.4	622.1	238.2	63.9	1.000151
19500.0	480.8	-19.3	18.7	659.7	620.7	238.7	66.0	1.000148
20000.0	471.0	-20.4	19.1	649.1	619.4	239.2	67.7	1.000146
20500.0	461.4	-21.5	19.4	638.8	618.0	239.8	68.7	1.000144
21000.0	452.1	-22.6	19.8	628.6	616.7	240.4	70.1	1.000141
21500.0	442.8	-23.8	20.3	618.5	615.2	240.0	71.9	1.000139
22000.0	433.6	-25.0	20.8	608.6	613.7	240.5	73.8	1.000137
22500.0	424.6	-26.2	21.4	598.8	612.3	239.8	75.6	1.000134
23000.0	415.7	-27.4	22.0	589.2	610.8	238.8	76.1	1.000132

UPPER AIR DATA
07900Z0100
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
10 MAR. 60 0750 HRS PST
ASCENSION NO. 100

GEODETTIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 6 (CONT)

GEOLATITIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KIOTS	WIND DATA DIRECTION, DEGREES (TN)	SPEED KIOTS	INDEX OF REFRACTION.
23500.0	407.1	-29.6	-43.3	22.5	573.8	609.3	237.7	76.2	1.000130
24000.0	398.6	-29.8	-44.2	23.0	570.5	607.8	237.5	76.5	1.000128
24500.0	390.0	-31.0	-45.1	23.2	561.0	606.3	237.5	76.9	1.000126
25000.0	381.7	-32.2	-46.1	23.4	551.7	604.8	237.9	79.7	1.000124
25500.0	373.0	-33.3	-47.0	23.6	542.6	603.3	238.3	82.4	1.000121
26000.0	365.6	-34.5	-48.0	23.7	533.7	601.8	238.4	84.7	1.000119
26500.0	357.8	-35.7	-49.0	23.9	524.9	600.3	238.3	86.3	1.000117
27000.0	350.0	-37.0	-52.0	19.3**	516.4	598.0	237.6	86.6	1.000115
27500.0	342.4	-38.5	-57.6	11.2**	508.3	596.8	237.2	87.2	1.000113
28000.0	334.9	-39.9	-68.1	3.2**	500.3	594.9	236.5	88.4	1.000111
28500.0	327.5	-41.2			491.8	593.4	236.5	89.5	1.000110
29000.0	320.2	-42.2			483.1	592.0	237.1	90.7	1.000108
29500.0	313.1	-43.3			474.6	590.0	237.9	91.6	1.000106
30000.0	306.1	-44.4			466.2	589.2	233.0	92.2	1.000104
30500.0	299.3	-45.5			458.0	587.8	239.7	93.3	1.000102
31000.0	292.4	-46.6			449.6	586.4	240.0	95.0	1.000100
31500.0	285.7	-47.7			441.4	585.0	240.1	97.1	1.000098
32000.0	279.1	-48.8			433.4	583.6	240.0	99.7	1.000097
32500.0	272.7	-49.8			425.5	582.2	240.1	100.9	1.000095
33000.0	266.5	-50.9			417.7	580.8	240.3	100.4	1.000093
33500.0	260.4	-52.0			410.2	579.3	240.4	101.0	1.000091
34000.0	254.4	-53.1			402.7	577.9	240.5	102.6	1.000090
34500.0	248.5	-54.2			395.4	576.5	240.5	106.1	1.000088
35000.0	242.7	-55.3			388.1	575.1	240.5	110.1	1.000086
35500.0	237.0	-55.5			379.4	574.7	241.0	102.4	1.000084
36000.0	231.4	-55.3			370.1	575.0	241.4	94.0	1.000082
36500.0	226.0	-53.9			359.1	570.9	241.6	85.2	1.000080
37000.0	220.8	-51.9			347.6	579.4	241.4	80.5	1.000077
37500.0	215.6	-51.5			339.0	579.9	240.8	81.0	1.000076
38000.0	210.7	-51.7			331.4	579.8	240.2	81.5	1.000074
38500.0	205.8	-52.2			324.5	579.0	239.5	81.9	1.000072
39000.0	201.0	-52.8			317.6	578.3	239.8	81.7	1.000071
39500.0	196.3	-53.3			311.1	577.6	237.7	79.2	1.000069
40000.0	191.7	-53.9			304.7	576.8	236.0	76.7	1.000068
40500.0	187.2	-54.5			298.3	576.1	235.6	74.4	1.000066
41000.0	182.9	-55.1			292.1	575.3	234.5	72.1	1.000065
41500.0	178.6	-55.6			286.0	574.6	234.0	72.7	1.000064
42000.0	174.4	-55.5			279.1	574.7	235.3	73.6	1.000062
42500.0	170.3	-55.5			272.5	574.8	236.3	74.5	1.000061
43000.0	166.3	-55.5			266.1	574.7	237.4	75.5	1.000059

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

UPPER AIR DATA
0790020100
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
19 MAR 60 0750 HRS MST
ASCENSION NO. 100

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

TABLE 6 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (T)	*IND DATA SPEED KNOTS	INDEX OF REFRACTION
43500.0	162.3	-56.1		260.0	573.9	230.2	75.1	1.000058
44000.0	158.5	-56.7		255.1	573.1	233.4	71.9	1.000057
44500.0	154.8	-57.3		249.8	572.3	236.7	68.7	1.000056
45000.0	151.1	-57.9		244.6	571.5	233.0	64.6	1.000054
45500.0	147.5	-58.4		239.2	570.9	238.4	60.5	1.000053
46000.0	144.0	-58.8		234.0	570.4	239.1	59.0	1.000052
46500.0	140.5	-59.2		228.8	569.8	239.6	57.8	1.000051
47000.0	137.1	-59.7		223.8	569.2	240.5	57.4	1.000050
47500.0	133.9	-60.1		218.9	568.7	241.2	57.3	1.000049
48000.0	130.7	-60.5		214.0	568.1	241.8	58.6	1.000048
48500.0	127.5	-60.9		209.3	567.5	242.2	61.0	1.000047
49000.0	124.5	-60.9		204.3	567.0	242.7	64.4	1.000045
49500.0	121.5	-60.5		199.0	568.1	243.2	70.0	1.000044
50000.0	118.6	-60.1		193.8	568.7	243.6	75.6	1.000043
50500.0	115.7	-59.7		188.9	569.1	244.0	76.1	1.000042
51000.0	112.9	-61.1		183.5	567.4	245.6	76.7	1.000041
51500.0	110.2	-61.7		181.5	566.5	247.4	70.1	1.000040
52000.0	107.5	-62.0		177.4	566.1	243.5	62.8	1.000040
52500.0	104.9	-62.0		173.1	568.1	250.8	58.0	1.000039
53000.0	102.4	-60.7		167.9	567.8	251.9	53.7	1.000037
53500.0	99.9	-60.6		163.8	567.9	253.2	49.6	1.000036
54000.0	97.5	-61.3		160.4	567.0	254.6	45.7	1.000035
54500.0	95.1	-62.0		157.0	568.0	258.3	41.8	1.000035
55000.0	92.8	-62.8		153.7	565.1	258.0	37.6	1.000034
55500.0	90.6	-63.5		150.5	564.1	261.5	33.4	1.000034
56000.0	88.4	-64.2		147.3	563.2	264.3	29.4	1.000033
56500.0	86.2	-64.9		144.2	562.2	265.7	25.5	1.000032
57000.0	84.1	-65.1		140.9	561.9	267.7	21.7	1.000031
57500.0	82.0	-65.2		137.4	561.8	267.3	20.1	1.000031
58000.0	80.0	-65.2		134.1	561.8	268.0	19.2	1.000030
58500.0	78.1	-65.3		130.8	561.7	260.0	25.5	1.000029
59000.0	76.1	-65.3		127.6	561.6	255.0	38.9	1.000028
59500.0	74.3	-65.4		124.5	561.6	252.7	52.3	1.000028
60000.0	72.4	-64.9		121.2	562.2	251.6	65.1	1.000027
60500.0	70.7	-62.4		116.8	563.0	251.2	78.0	1.000026
61000.0	69.0	-61.3		113.4	567.1	252.4	72.6	1.000025
61500.0	67.3	-61.0		110.5	567.4	253.9	66.2	1.000025
62000.0	65.7	-60.8		107.8	567.6	250.9	54.1	1.000024
62500.0	64.1	-60.5		105.0	569.1	266.3	33.2	1.000023
63000.0	62.6	-61.0		102.7	567.5	300.7	15.7	1.000023

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

UPPER AIR DATA
0790020100
WHITE SANCJ

STATION ALTITUDE 3989.00 FEET MSL
19 MAR. 80
0750 HRS MSL
ASCENSION 1.0. 160

TABLE 6 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND KNOTS	WIND DATA DIRECTION, DEGREES (T)	SPEED KNOTS	INDEX OF REFRACTION
03500.0	61.0	-62.0		100.7	500.1	20	14.3	1.000022
04000.0	59.6	-63.1		90.8	504.0	33.1	23.1	1.000022
04500.0	58.1	-64.2		90.9	503.2	43.5	31.6	1.000022
05000.0	56.7	-64.7		94.8	502.4	35.0	20.9	1.000021
05500.0	55.3	-63.5		91.9	504.1	13.0	11.4	1.000020
06000.0	54.0	-62.3		89.2	505.7	290.7	10.3	1.000020
06500.0	52.7	-62.7		87.2	503.2	263.9	23.0	1.000019
07000.0	51.4	-63.0		85.2	504.7	255.4	37.7	1.000019
07500.0	50.1	-63.4		83.3	504.3	253.2	46.0	1.000019
08000.0	48.9	-63.2		81.2	504.5	252.0	52.5	1.000018
08500.0	47.7	-63.0		79.1	504.8	251.0	59.1	1.000018
09000.0	46.6	-62.8		77.1	505.1	252.0	52.4	1.000017
09500.0	45.5	-62.6		75.2	505.3	255.2	45.0	1.000017
10000.0	44.4	-62.0		73.2	506.1	258.7	38.3	1.000016
10500.0	43.3	-60.4		70.9	508.2	260.9	27.5	1.000016
11000.0	42.3	-58.8		68.7	570.3	264.7	17.9	1.000015
11500.0	41.2	-58.1		66.0	571.3	310.5	13.2	1.000015
12000.0	40.3	-58.9		65.5	570.2	322.1	11.8	1.000015
12500.0	39.3	-59.8		64.2	569.1	330.0	11.0	1.000014
13000.0	38.4	-60.0		62.7	508.8	342.8	10.1	1.000014
13500.0	37.5	-58.4		60.7	571.0	342.0	8.7	1.000014
14000.0	36.6	-56.7		58.9	573.1	342.3	7.2	1.000013
14500.0	35.7	-55.1		57.0	573.3	350.7	6.7	1.000013
15000.0	34.9	-55.4		55.8	574.9	2	6.6	1.000012
15500.0	34.0	-55.9		54.0	574.3	13.4	6.8	1.000012
16000.0	33.2	-56.4		53.4	573.0	20.1	7.4	1.000012
16500.0	32.5	-56.9		52.3	572.9	25.8	8.0	1.000012
17000.0	31.7	-57.4		51.2	572.2	30.2	8.5	1.000011
17500.0	30.9	-57.9		50.1	571.5	33.1	8.5	1.000011
18000.0	30.2	-58.4		49.0	570.8	36.0	8.5	1.000011
18500.0	29.5	-58.1		47.8	571.3	37.5	8.2	1.000011
19000.0	28.8	-57.3		46.5	572.3	37.8	7.7	1.000010
19500.0	28.1	-56.6		45.2	573.3	38.1	7.2	1.000010
20000.0	27.5	-55.9		44.0	574.3	36.7	6.3	1.000010
20500.0	26.8	-55.1		42.9	575.2	34.0	5.2	1.000010
21000.0	26.2	-54.4		41.7	576.2	30.1	4.2	1.000009
21500.0	25.6	-54.4		40.7	576.2	10.3	2.5	1.000009
22000.0	25.0	-54.4		39.8	576.2	317.1	1.8	1.000009
22500.0	24.4	-54.4		38.9	576.2	272.1	3.0	1.000009
23000.0	23.8	-54.4		37.9	576.2	255.9	5.3	1.000009

UPPER AIR DATA
0700020160
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
19 MAR 69 0750 HRS MST
ASCENSION NO. 160

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 6 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION, DEGREES (T)	SPEED KNOTS	
83500.0	23.3	-54.4		37.1	576.2	249.7	7.7	1.000008
84000.0	22.7	-54.4		36.2	576.2	246.7	9.8	1.000008
84500.0	22.2	-54.4		35.4	576.2	245.5	10.6	1.000008
85000.0	21.7	-54.4		34.5	576.2	244.4	11.4	1.000008
85500.0	21.2	-54.4		33.7	576.2	243.4	12.2	1.000008
86000.0	20.7	-54.4		32.9	576.2	243.2	11.1	1.000007
86500.0	20.2	-54.4		32.2	576.2	242.9	9.9	1.000007
87000.0	19.7	-54.3		31.4	576.3	242.5	8.7	1.000007
87500.0	19.3	-54.1		30.7	576.5	240.6	7.4	1.000007
88000.0	18.8	-54.0		29.9	576.8	237.1	6.2	1.000007
88500.0	18.4	-53.8		29.2	577.0	232.0	5.0	1.000006
89000.0	18.0	-53.6		28.5	577.2	223.7	4.4	1.000006
89500.0	17.5	-53.4		27.8	577.5	215.0	4.7	1.000006
90000.0	17.1	-53.2		27.1	577.7	207.0	5.2	1.000006
90500.0	16.7	-52.8		26.5	578.3	201.3	5.6	1.000006
91000.0	16.4	-52.4		25.8	578.8	193.0	5.7	1.000006
91500.0	16.0	-52.0		25.2	579.4	188.0	5.8	1.000006
92000.0	15.6	-51.5		24.6	579.9	178.9	6.0	1.000005
92500.0	15.3	-51.1		24.0	580.5	193.9	6.8	1.000005
93000.0	14.9	-50.7		23.4	581.0	211.4	8.5	1.000005
93500.0	14.6	-50.3		22.6	581.6	222.4	10.7	1.000005
94000.0	14.3	-49.9		22.2	582.1	230.6	13.4	1.000005
94500.0	13.9	-49.4		21.7	582.7	238.2	16.7	1.000005
95000.0	13.6	-49.0		21.2	583.2	243.1	20.3	1.000005
95500.0	13.3	-48.6		20.6	583.8	246.5	23.9	1.000005
96000.0	13.0	-48.2		20.1	584.3	249.1	18.7	1.000004
96500.0	12.7	-47.7		19.6	584.9	253.5	13.4	1.000004
97000.0	12.4	-47.3		19.1	585.4	253.7	8.3	1.000004
97500.0	12.1	-46.9		18.7	586.0			1.000004
98000.0	11.9	-46.5		18.2	586.5			1.000004
98500.0	11.6	-46.1		17.8	587.1			1.000004
99000.0	11.3	-45.6		17.3	587.6			1.000004

STATION ALTITUDE 3980.00 FEET NSL
10 MAR. 60 0750 HRS MST
ASCEP. 5101, NO. 100

MANDATORY LEVELS
0790020100
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

TABLE 7

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUMID.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DW POINT CENTIGRADE	PERCENT	DIRECTION DEGREES (TN)	SPEED KNOTS	
850.0	4786.	10.4	-8.2	25.	194.6	10.2	
800.0	6305.	7.9	-10.2	27.	208.5	21.4	
750.0	8126.	3.4	-12.3	29.	209.9	23.6	
700.0	9951.	.6	-17.1	25.	222.7	25.0	
650.0	11824.	-3.9	-24.4	18.	235.5	43.3	
600.0	13704.	-7.4	-26.0	21.	238.0	50.9	
550.0	16149.	-11.8	-30.7	19.	233.6	59.3	
500.0	18519.	-17.2	-35.6	18.	237.5	62.7	
450.0	21022.	-22.8	-39.6	20.	240.5	70.5	
400.0	23377.	-29.6	-44.0	23.	237.3	76.4	
350.0	26356.	-37.1	-52.0	19.**	237.9	86.6	
300.0	30387.	-45.4			239.7	93.1	
250.0	34303.	-53.9			240.5	105.0	
200.0	39014.	-52.9			238.6	81.2	
175.0	41821.	-55.5			235.2	73.4	
150.0	45032.	-58.1			238.3	63.6	
125.0	48772.	-60.9			242.6	63.1	
100.0	53322.	-60.6			253.1	43.9	
80.0	57817.	-65.2			260.1	19.2	
70.0	60491.	-61.4			251.3	76.8	
66.0	63632.	-62.8			25.5	19.5	
50.0	67307.	-63.4			253.1	46.3	
40.0	71851.	-59.2			324.7	11.6	
30.0	77816.	-58.6			30.6	8.5	
25.0	81622.	-54.4			324.7	1.8	
20.0	86313.	-54.4			242.7	9.5	
15.0	92399.	-50.8			203.7	7.7	

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3951.40 FEET MSL
19 MAR. 63 0730 HRS MST
ASCENSION NO. 11

SIGNIFICANT LEVEL DATA
0790030011
APACHE

GEODETIC COORDINATES
32.62700 LAT NEG
106.39352 LON NEG

TABLE 8

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
876.4 3951.4	4.1	49.0
865.8 4277.9	6.6	57.0
855.4 4605.8	10.3	34.0
850.0 4778.9	10.8	32.0
835.0 5265.5	10.1	31.0
700.0 9980.5	-1.4	34.0
660.8 11478.5	-5.2	32.0
545.6 16352.8	-12.8	21.0
500.0 18519.4	-13.1	20.0
400.0 23874.4	-30.1	26.0
346.6 27344.2	-38.0	28.0
322.2 28913.1	-42.3	
300.0 30391.8	-45.3	
250.0 34315.6	-54.7	
239.2 35242.4	-56.5	
228.4 36208.3	-56.4	
213.0 37681.7	-52.4	
200.0 39019.2	-53.7	
175.0 41847.5	-53.7	
157.6 44052.6	-56.4	
150.0 45082.7	-58.2	
130.0 48023.6	-62.5	
115.6 50421.0	-61.0	
105.6 52269.1	-62.5	
100.0 53381.9	-61.1	
96.0 54219.4	-60.6	
78.4 58322.8	-66.5	
70.0 60607.6	-62.8	
57.0 64773.6	-64.2	
50.0 67434.7	-62.3	
38.0 73065.0	-60.1	
35.6 74421.2	-56.8	
30.0 78000.7	-57.6	

STATION ALTITUDE 3951.40 FEET MSL
19 MAR. 69 0730 HRS MST
ASL. SLOP NO. 11

UPPER AIR DATA
0790050011
APACHE

GEODETIC COORDINATES
32.62700 LAT DEG
106.39352 LON DEG

TABLE 9

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KI/HR	WIND DATA DIRECTION DEGREES (T)	SPEED KI/HR	INDEX OF REFRACTION
3951.4	876.4	4.1	49.0	1093.3	649.2	40.0	5.1	1.000265
4000.0	874.8	4.5	47.2	1095.9	649.7	41.5	4.8	1.000264
4500.0	858.7	9.1	35.0	1058.0	635.1	70.1	2.8	1.000255
5000.0	843.2	10.5	31.5	1032.7	626.7	129.0	2.7	1.000249
5500.0	827.7	9.5	31.1	1018.3	625.6	161.0	4.6	1.000244
6000.0	812.4	8.3	31.5	1003.9	624.1	172.6	6.9	1.000240
6500.0	797.3	7.1	31.6	989.0	622.7	181.7	7.6	1.000236
7000.0	782.5	5.9	32.1	975.6	621.2	188.7	8.7	1.000232
7500.0	768.1	4.7	32.4	961.8	619.8	192.4	10.6	1.000228
8000.0	753.8	3.4	32.7	948.3	618.3	196.4	12.7	1.000224
8500.0	739.9	2.2	33.1	934.9	616.9	202.2	14.2	1.000220
9000.0	726.1	1.0	33.4	921.7	615.4	207.0	15.9	1.000216
9500.0	712.7	-0.2	33.7	908.7	613.9	211.2	18.1	1.000213
10000.0	699.5	-1.4	34.0	895.9	612.5	214.4	20.4	1.000209
10500.0	686.1	-2.7	33.3	883.1	610.9	217.0	23.4	1.000205
11000.0	673.1	-4.0	32.6	870.4	609.4	219.5	26.7	1.000202
11500.0	660.2	-5.2	32.0	857.9	607.9	223.0	31.4	1.000198
12000.0	647.4	-6.0	30.8	845.7	607.0	226.8	36.3	1.000194
12500.0	634.8	-6.8	29.7	829.7	606.0	229.4	41.3	1.000191
13000.0	622.4	-7.6	28.6	816.0	605.1	230.9	46.0	1.000187
13500.0	610.3	-8.4	27.4	802.5	604.1	231.2	50.0	1.000184
14000.0	598.5	-9.1	26.3	789.2	603.2	231.5	53.7	1.000180
14500.0	586.8	-9.9	25.2	776.2	602.2	231.6	56.9	1.000177
15000.0	575.4	-10.7	24.1	763.4	601.3	231.7	59.4	1.000174
15500.0	564.2	-11.5	22.9	750.8	600.3	231.9	59.6	1.000170
16000.0	553.2	-12.2	21.8	738.4	600.4	232.0	59.6	1.000167
16500.0	542.4	-13.2	20.9	726.5	600.3	231.9	58.8	1.000164
17000.0	531.6	-14.4	20.7	715.4	600.8	231.0	58.2	1.000162
17500.0	521.0	-15.6	20.5	704.5	600.3	232.3	58.6	1.000159
18000.0	510.6	-16.8	20.2	693.8	600.8	232.5	59.2	1.000156
18500.0	500.4	-18.1	20.0	683.2	600.3	232.0	60.6	1.000154
19000.0	490.1	-19.2	20.5	672.1	600.9	231.7	62.3	1.000151
19500.0	480.0	-20.3	21.1	661.2	600.5	232.4	65.5	1.000149
20000.0	470.1	-21.4	21.7	650.4	600.2	233.1	68.5	1.000146
20500.0	460.4	-22.5	22.2	639.9	600.8	234.7	70.3	1.000144
21000.0	450.9	-23.7	22.8	629.5	600.4	236.3	72.2	1.000141
21500.0	441.6	-24.8	23.3	619.3	600.0	236.9	73.5	1.000139
22000.0	432.5	-25.9	23.9	609.3	600.6	237.6	74.7	1.000137
22500.0	423.6	-27.0	24.5	599.4	601.2	237.5	76.2	1.000135
23000.0	414.8	-28.1	25.0	589.8	600.8	237.4	77.7	1.000132

GEODETIC COORDINATES
32.62700 LAT DEG
106.39352 LONG DEG

UPPER AIR DATA
0790050011
APACHE

STATION ALTITUDE 3951.40 FEET MSL
19 MAR 60
ASCENSION NO. 11

TABLE 9 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION, DEGREES (T)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	400.3	-29.3	25.6	580.3	600.4	236.6	78.0	1.000130
24000.0	397.8	-30.4	26.0	578.9	607.0	236.2	78.0	1.000128
24500.0	389.3	-31.7	26.0	561.5	605.4	235.0	78.0	1.000126
25000.0	380.9	-32.9	26.0	552.3	603.9	235.0	80.1	1.000124
25500.0	372.8	-34.2	26.0	543.3	602.3	234.6	81.4	1.000122
26000.0	364.6	-35.4	26.0	534.4	600.7	234.6	82.7	1.000120
26500.0	356.9	-36.6	26.0	525.7	599.1	235.0	84.0	1.000118
27000.0	349.3	-37.9	26.0	517.2	597.6	235.2	85.4	1.000116
27500.0	341.6	-39.1	19.3**	508.4	596.0	235.5	87.6	1.000114
28000.0	334.1	-40.3	12.0**	499.6	594.5	235.8	90.3	1.000111
28500.0	326.7	-41.5	4.6**	491.4	592.9	236.1	92.2	1.000110
29000.0	319.5	-42.7		482.9	591.5	236.4	93.7	1.000108
29500.0	312.3	-43.6		474.0	590.2	237.0	91.1	1.000106
30000.0	305.4	-44.6		465.4	589.0	237.7	85.8	1.000104
30500.0	298.5	-45.6		456.9	587.7	238.0	80.6	1.000102
31000.0	291.6	-46.8		448.8	586.2	238.5	75.4	1.000100
31500.0	284.9	-48.0		440.3	584.6	240.0	73.9	1.000098
32000.0	278.4	-49.2		433.0	583.1	239.9	78.4	1.000096
32500.0	272.6	-50.4		425.3	581.5	239.6	83.2	1.000095
33000.0	266.8	-51.5		417.8	579.9	239.2	89.2	1.000093
33500.0	259.7	-52.7		410.4	578.4	238.9	94.4	1.000091
34000.0	253.7	-53.9		403.2	576.8	239.1	93.1	1.000090
34500.0	247.8	-55.1		395.8	575.3	239.3	91.8	1.000088
35000.0	242.0	-56.0		388.2	574.0	239.5	90.2	1.000086
35500.0	236.3	-56.5		379.9	573.5	239.6	89.0	1.000085
36000.0	230.7	-56.4		376.8	573.5	239.1	91.4	1.000083
36500.0	225.3	-55.6		368.7	574.6	238.6	93.3	1.000080
37000.0	220.0	-54.3		359.1	576.4	238.1	92.2	1.000078
37500.0	214.8	-52.9		350.8	578.2	237.6	90.9	1.000076
38000.0	209.8	-52.7		341.6	578.4	237.1	87.5	1.000074
38500.0	204.9	-53.2		324.6	577.8	236.6	84.2	1.000072
39000.0	200.2	-53.7		317.7	577.1	235.9	83.4	1.000071
39500.0	195.5	-53.7		310.4	577.1	235.1	82.4	1.000069
40000.0	191.0	-53.7		303.1	577.1	234.6	81.7	1.000068
40500.0	186.5	-53.7		296.1	577.1	234.0	80.8	1.000066
41000.0	182.1	-53.7		289.1	577.1	233.6	79.2	1.000064
41500.0	177.9	-53.7		282.4	577.1	233.6	75.8	1.000063
42000.0	173.7	-53.9		276.0	576.9	233.5	72.5	1.000061
42500.0	169.7	-54.5		270.3	576.1	233.7	69.1	1.000060
43000.0	165.7	-55.1		264.7	575.3	233.9	65.8	1.000059

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 9951.40 FEET MSL
19 APR. 63 0730 HRS MST
ASCENSION NO. 11

UPPER AIR DATA
STATION NAME
APACHE

GEODETIC COORDINATES
32.02700 LAT DEG
106.39352 LON DEG

TABLE 9 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND M/SEC	WIND DATA DIRECTION DEGREES (T)	SPEED KNOTS	INDEX OF REFRACTION
43500.0	161.0	-55.7		297.2	574.4	234.2	63.0	1.000051
44000.0	158.0	-56.3		293.9	573.6	234.5	63.9	1.000057
44500.0	154.5	-57.2		242.8	572.5	234.9	64.0	1.000055
45000.0	150.6	-58.1		243.9	571.4	235.2	64.7	1.000054
45500.0	147.0	-58.9		236.9	570.4	235.6	65.4	1.000053
46000.0	143.5	-59.5		233.9	569.4	235.6	65.4	1.000052
46500.0	140.0	-60.3		229.1	568.4	235.0	64.3	1.000051
47000.0	136.6	-61.0		224.4	567.4	236.2	63.2	1.000050
47500.0	133.4	-61.7		219.7	566.5	236.3	62.5	1.000049
48000.0	130.1	-62.5		215.2	565.5	236.4	62.1	1.000048
48500.0	127.0	-62.2		209.7	564.6	236.5	61.9	1.000047
49000.0	123.9	-61.9		204.4	563.7	236.5	62.6	1.000046
49500.0	120.9	-61.6		199.1	562.7	236.6	63.4	1.000044
50000.0	118.0	-61.3		194.0	561.7	237.2	62.9	1.000043
50500.0	115.2	-61.1		189.1	560.7	238.3	61.6	1.000042
51000.0	112.4	-61.5		184.9	560.3	239.9	60.0	1.000041
51500.0	109.7	-61.9		180.8	560.3	243.3	56.7	1.000040
52000.0	107.0	-62.3		176.8	565.7	247.1	53.6	1.000039
52500.0	104.4	-62.2		172.4	565.8	250.4	51.1	1.000038
53000.0	101.9	-61.6		167.8	566.7	253.9	48.7	1.000037
53500.0	99.4	-61.0		163.3	567.4	255.8	46.1	1.000036
54000.0	97.0	-60.7		159.1	567.8	257.4	43.4	1.000035
54500.0	94.7	-61.0		155.5	567.4	259.2	40.3	1.000035
55000.0	92.4	-61.7		152.2	566.5	261.5	36.5	1.000034
55500.0	90.1	-62.4		149.0	565.5	264.5	32.7	1.000033
56000.0	87.9	-63.2		145.9	564.5	265.3	31.3	1.000032
56500.0	85.6	-63.9		142.8	563.6	265.3	30.6	1.000032
57000.0	83.7	-64.6		139.8	562.6	264.7	30.5	1.000031
57500.0	81.6	-65.3		136.9	561.6	261.4	33.5	1.000030
58000.0	79.7	-66.0		134.0	560.7	258.5	36.6	1.000030
58500.0	77.7	-66.2		130.8	560.4	256.5	39.7	1.000029
59000.0	75.8	-65.4		127.1	561.5	250.0	42.3	1.000028
59500.0	74.0	-64.6		123.5	562.6	255.6	45.0	1.000028
60000.0	72.1	-63.8		120.0	563.7	255.8	47.0	1.000027
60500.0	70.4	-63.0		116.6	564.8	257.6	47.1	1.000026
61000.0	68.7	-62.9		113.8	564.8	259.6	47.2	1.000025
61500.0	67.0	-63.1		111.1	564.6	261.2	46.7	1.000025
62000.0	65.4	-63.3		108.5	564.4	261.6	45.2	1.000024
62500.0	63.8	-63.4		105.9	564.2	262.0	43.7	1.000024
63000.0	62.2	-63.6		103.4	563.9	260.2	41.9	1.000023

GEODETIC COORDINATES
32.62700 LAT DEG
106.39352 LON DEG

UPPER AIR DATA
0790050011
APACHE

STATION ALTITUDE 3951.40 FEET MSL
19 MAR. 60
0730 HRS MST

ASCENSION NO. 11

TABLE 9 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (T)	SPEED KNOTS	INDEX OF REFRACTION
63700.0	60.7	-63.8		101.0	503.7	250.7	40.1	1.000022
64000.0	59.2	-63.9		96.6	503.5	252.9	38.4	1.000022
64500.0	57.8	-64.1		90.3	503.3	249.5	37.6	1.000021
65000.0	56.4	-64.0		93.9	503.4	240.1	37.2	1.000021
65500.0	55.0	-63.7		91.5	503.8	242.6	36.8	1.000020
66000.0	53.7	-63.3		89.1	504.3	241.4	37.3	1.000020
66500.0	52.4	-63.0		86.8	504.8	240.2	37.7	1.000019
67000.0	51.1	-62.6		84.5	505.3	239.5	37.4	1.000019
67500.0	49.8	-62.3		82.3	505.7	241.0	34.2	1.000018
68000.0	48.0	-62.1		80.3	506.0	242.7	31.0	1.000018
68500.0	47.5	-61.9		78.3	506.3	240.7	26.4	1.000017
69000.0	46.3	-61.7		76.3	506.5	237.5	19.8	1.000017
69500.0	45.2	-61.5		74.4	506.8	277.4	14.5	1.000017
70000.0	44.1	-61.3		72.6	507.0	308.5	12.6	1.000016
70500.0	43.1	-61.1		70.7	507.3	337.7	14.7	1.000016
71000.0	42.0	-60.9		69.0	507.6	350.1	19.3	1.000015
71500.0	41.0	-60.7		67.3	507.8	4.1	23.3	1.000015
72000.0	40.0	-60.5		65.6	508.1	6.1	24.1	1.000015
72500.0	39.1	-60.3		63.9	508.5	7.9	25.1	1.000014
73000.0	38.1	-60.1		62.3	508.6	7.9	24.4	1.000014
73500.0	37.2	-59.0		60.5	570.0	1.1	19.3	1.000013
74000.0	36.3	-57.8		58.8	571.7	349.6	14.6	1.000013
74500.0	35.5	-56.8		57.1	573.0	329.4	11.0	1.000013
75000.0	34.6	-56.9		55.8	572.9	299.0	10.1	1.000012
75500.0	33.8	-57.0		54.5	572.7	271.7	12.1	1.000012
76000.0	33.0	-57.2		53.2	572.6	254.6	15.9	1.000012
76500.0	32.2	-57.3		52.0	572.4			1.000012
77000.0	31.5	-57.4		50.8	572.3			1.000011
77500.0	30.7	-57.5		49.6	572.1			1.000011
78000.0	30.0	-57.6		48.5	572.0			1.000011

STATION ALTITUDE 3951.40 FEET MSL
 19 MAR 60
 ASCENSION NO. 11

MANDATORY LEVELS
 0790050011
 APACHE

GEODETIC COORDINATES
 32.62700 LAT DEG
 106.39352 LON DEG

TABLE 10

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUMID.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT DEGREES	PERCENT		DIRECTION DEGREES (IN)	SPEED KNOTS
850.0	4776.	10.8	-5.2	32.		102.6	2.4
800.0	6423.	7.3	-8.4	32.		180.5	7.5
750.0	8152.	3.1	-11.6	33.		190.3	13.1
700.0	9971.	-1.4	-15.2	34.		214.3	20.3
650.0	11801.	-5.9	-20.2	31.		226.2	35.3
600.0	13936.	-9.0	-24.6	26.		231.4	53.3
550.0	16131.	-12.5	-30.0	21.		231.9	59.4
500.0	18404.	-18.1	-35.5	20.		232.0	60.6
450.0	21040.	-23.8	-39.0	23.		236.4	72.4
400.0	23836.	-30.1	-43.3	26.		236.4	76.0
350.0	26906.	-37.8	-50.1	26.		235.2	85.2
300.0	30333.	-45.3				236.3	81.8
250.0	34243.	-54.7				239.2	92.4
200.0	38928.	-53.7				235.9	83.4
175.0	41744.	-53.7				233.6	73.6
150.0	44954.	-58.2				235.3	64.8
125.0	48605.	-62.0				236.3	62.3
100.0	53220.	-61.1				255.4	46.9
80.0	57710.	-65.9				259.1	35.9
70.0	60403.	-62.8				258.1	47.1
60.0	63511.	-63.9				255.2	39.4
50.0	67195.	-62.3				240.7	34.8
40.0	71726.	-60.5				6.0	24.1
30.0	77673.	-57.6					

GEODETIC COORDINATES
32.86497 LAT DEG
106.49714 LON DEG

SIGNIFICANT LEVEL DATA
0790220011
NW 30

STATION ALTITUDE 4010.40 FEET MSL
19 APR 60
OBSERVATION NO. 11
0750 HRS MST

TABLE 11

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
874.1	7.3	-7.2	59.0
850.0	8.1	-2.5	47.0
803.4	8.4	-6.6	29.0
709.0	-9	-18.4	25.0
500.0	-17.4	-36.5	17.0
429.6	-26.6	-43.2	19.0
400.0	-30.2	-46.2	19.0
373.2	-33.6	-49.1	19.0
300.0	-45.6		
250.0	-54.4		
235.0	-56.7		
219.6	-53.6		
204.8	-54.9		
200.0	-54.0		
173.0	-52.9		
150.0	-57.6		
122.4	-62.3		
107.0	-67.8		
82.2	-63.6		
74.2	-59.7		
70.0	-62.1		
59.2	-67.8		
50.0	-62.1		
45.4	-59.7		
38.8	-61.5		
36.6	-57.1		
30.0	-55.4		

STATION ALTITUDE 4010.40 FEET MSL
19 APR 60 0750 HRS MST
ASCENSION NO. 11

UPPER AIR DATA
0790220011
NW 30

GEODETIC COORDINATES
32.80497 LAT 16G
106.49714 LONG 16G

TABLE 12

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (T)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
4610.4	874.1	7.3	-2.2	59.0	1082.9	653.3		.0	1.000270
4500.0	858.4	7.8	-1.6	51.2	1061.6	653.8	220.7	3.9	1.000263
5000.0	842.7	8.1	-3.3	44.3	1041.4	654.1	220.7	7.8	1.000255
5300.0	827.3	8.2	-5.1	38.4	1022.3	654.1	220.7	11.8	1.000248
5600.0	812.2	8.3	-7.2	32.5	1003.5	654.2	219.1	14.5	1.000241
5900.0	797.3	7.9	-9.1	28.8	986.9	653.6	216.4	16.0	1.000235
7000.0	782.5	6.6	-10.5	28.2	973.1	652.1	211.2	18.3	1.000230
7300.0	768.0	5.4	-11.8	27.7	959.4	650.5	205.4	20.9	1.000226
8000.0	753.7	4.1	-13.1	27.1	946.0	649.0	202.8	23.1	1.000222
8300.0	739.7	2.8	-14.5	26.6	932.8	647.5	202.1	24.8	1.000218
9000.0	726.0	1.6	-15.8	26.1	919.8	646.0	205.2	25.5	1.000214
9500.0	712.5	.3	-17.1	25.5	906.9	644.5	209.3	27.9	1.000210
10000.0	699.2	-1.0	-18.5	25.0	894.2	643.0	212.8	30.7	1.000206
10300.0	685.6	-1.9	-19.5	24.5	879.9	641.8	214.9	32.4	1.000203
11000.0	672.2	-2.9	-20.8	24.0	865.9	640.7	217.8	34.9	1.000199
11500.0	659.2	-3.8	-21.6	23.6	852.2	639.5	221.5	38.6	1.000195
12000.0	646.3	-4.8	-22.7	23.1	838.6	638.4	224.4	42.4	1.000192
12300.0	633.7	-5.8	-23.7	22.6	825.3	637.2	228.7	46.2	1.000189
13000.0	621.4	-6.7	-24.8	22.2	812.2	636.0	228.4	48.7	1.000185
13300.0	609.3	-7.7	-25.8	21.7	799.3	634.9	229.8	49.7	1.000182
14000.0	597.4	-8.7	-26.9	21.2	786.6	633.7	230.6	51.2	1.000179
14500.0	585.8	-9.6	-27.9	20.8	774.1	632.5	230.9	53.4	1.000176
15000.0	574.4	-10.6	-29.0	20.3	761.9	631.4	230.8	55.4	1.000173
15300.0	563.2	-11.6	-30.0	19.8	749.8	630.2	230.1	57.2	1.000170
16000.0	552.3	-12.5	-31.1	19.4	737.9	629.0	229.6	58.9	1.000167
16500.0	541.3	-13.5	-32.2	18.9	726.3	627.9	229.6	60.3	1.000164
17000.0	531.0	-14.5	-33.2	18.4	714.8	626.7	229.7	61.6	1.000161
17300.0	520.6	-15.4	-34.3	18.0	703.5	625.5	230.2	62.2	1.000159
18000.0	510.5	-16.4	-35.4	17.5	692.4	624.3	230.7	62.8	1.000156
18500.0	500.5	-17.3	-36.4	17.0	681.5	623.1	230.8	63.0	1.000153
19000.0	490.3	-18.6	-37.3	17.3	670.9	621.8	230.6	63.5	1.000151
19500.0	480.3	-19.8	-38.2	17.5	660.4	620.1	231.0	65.1	1.000148
20000.0	470.3	-21.1	-39.1	17.6	650.1	618.8	231.4	66.9	1.000146
20300.0	460.9	-22.3	-40.0	18.1	640.0	617.0	232.1	69.2	1.000144
21000.0	451.4	-23.6	-41.0	18.3	630.1	615.5	232.8	71.7	1.000141
21300.0	442.2	-24.8	-41.9	18.6	620.3	613.9	233.4	74.6	1.000139
22000.0	433.2	-26.1	-42.8	18.9	610.7	612.4	233.9	77.4	1.000137
22300.0	424.2	-27.2	-43.7	19.0	600.8	610.9	234.1	79.8	1.000135
23000.0	415.3	-28.3	-44.6	19.0	590.8	609.6	234.4	81.4	1.000132
23300.0	406.6	-29.4	-45.5	19.0	580.9	608.3	234.6	81.3	1.000130

UPPER AIR DATA
 0750Z00011
 14W 30

STATION ALTITUDE 4910.40 FEET MSL
 10 34.00 0750 HRS NST
 ASCENSION NO. 11

GEODETIC COORDINATES
 32.88497 LAT DEG
 106.49714 LONG DEG

TABLE 12 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KIOTS	DIRECTIO, DEGREES (T)	WIND DATA SPEED KIOTS	INDEX OF REFRACTION
2400.0	393.0	-30.4	19.0	571.2	600.9	234.7	80.4	1.000128
2450.0	389.5	-31.5	19.0	561.5	605.6	234.6	79.0	1.000126
2500.0	381.2	-32.6	19.0	552.0	614.3	234.4	78.2	1.000123
2550.0	373.1	-33.6	19.0**	542.6	623.0	234.1	77.7	1.000121
2600.0	364.9	-34.8	17.1**	533.4	631.4	234.2	78.0	1.000119
2650.0	356.9	-36.1	15.1**	524.4	639.9	234.4	78.5	1.000117
2700.0	349.1	-37.3	13.2**	515.5	648.3	234.6	81.7	1.000115
2750.0	341.4	-38.5	11.3**	506.8	656.8	234.6	85.0	1.000113
2800.0	333.9	-39.7	9.3**	498.3	665.2	234.9	89.9	1.000111
2850.0	326.6	-40.9	7.4**	489.9	673.7	235.1	92.8	1.000109
2900.0	319.4	-42.2	5.5**	481.7	682.1	235.3	95.9	1.000107
2950.0	312.4	-43.4	3.5**	473.6	690.5	235.5	98.8	1.000106
3000.0	305.5	-44.6	1.6**	465.7	699.0	235.7	101.3	1.000104
3050.0	298.8	-45.8		457.8	707.4	236.1	102.9	1.000102
3100.0	291.9	-46.9		449.5	716.0	236.4	104.5	1.000100
3150.0	285.2	-48.0		441.4	724.5	236.6	105.9	1.000098
3200.0	278.7	-49.2		433.4	733.1	236.8	107.1	1.000097
3250.0	272.3	-50.3		425.6	741.6	236.9	107.8	1.000095
3300.0	266.0	-51.4		417.9	750.1	236.0	108.0	1.000093
3350.0	259.9	-52.5		410.4	758.7	235.3	107.1	1.000091
3400.0	253.9	-53.6		403.0	767.2	234.4	103.9	1.000090
3450.0	248.0	-54.7		395.5	775.8	233.5	100.5	1.000089
3500.0	242.2	-55.6		387.8	784.6	233.0	96.5	1.000086
3550.0	236.5	-56.5		380.2	793.5	233.0	94.0	1.000085
3600.0	230.9	-57.9		372.3	802.2	234.2	94.2	1.000082
3650.0	225.5	-54.8		359.8	810.6	235.5	95.3	1.000080
3700.0	220.2	-53.7		345.6	817.1	237.2	97.9	1.000078
3750.0	215.1	-54.0		341.9	823.6	238.6	99.8	1.000076
3800.0	210.0	-54.4		334.5	829.2	238.7	97.9	1.000075
3850.0	205.1	-54.9		327.4	835.6	238.7	96.1	1.000073
3900.0	200.3	-54.1		319.5	841.6	237.0	88.3	1.000071
3950.0	195.7	-53.8		310.8	847.9	234.7	80.2	1.000069
4000.0	191.1	-53.7		303.3	853.2	233.0	71.5	1.000068
4050.0	186.6	-53.5		295.0	857.4	230.9	62.8	1.000066
4100.0	182.3	-53.3		288.8	861.0	231.4	60.2	1.000064
4150.0	178.0	-53.1		281.9	864.9	232.2	58.4	1.000063
4200.0	173.9	-52.9		275.1	868.1	233.1	60.1	1.000061
4250.0	169.8	-53.5		269.3	871.4	233.9	62.0	1.000060
4300.0	165.8	-54.3		264.0	874.3	234.2	65.7	1.000059
4350.0	161.9	-55.1		258.7	875.3	234.2	68.6	1.000058

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

UPPER AIR DATA
0700Z20JUL
1W 30

STATION ALTITUDE 4010.00 FEET MSL
10 MAR 60
ASCENSION, JC. 11

GEODETIC COORDINATES
32.08497 LAT DEG
106.49714 LONG DEG

TABLE 12 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (T)	SPEED KNOTS	INDEX OF REFRACTION
4400.0	158.1	-55.9		253.5	574.3	234.3	70.3	1.000050
4450.0	154.4	-56.6		246.5	573.2	234.6	70.2	1.000055
4500.0	150.8	-57.4		243.5	572.2	234.9	70.2	1.000054
4550.0	147.2	-58.0		236.4	571.4	235.8	65.1	1.000053
4600.0	143.7	-58.6		233.3	570.6	236.9	60.1	1.000052
4650.0	140.2	-59.2		226.3	569.9	237.9	56.4	1.000051
4700.0	136.8	-59.7		223.4	569.1	238.9	53.6	1.000050
4750.0	133.6	-60.3		216.6	568.4	239.9	50.8	1.000049
4800.0	130.4	-60.8		213.9	567.6	239.8	51.6	1.000048
4850.0	127.2	-61.4		209.3	566.9	239.8	53.0	1.000047
4900.0	124.2	-62.0		204.8	566.1	239.4	54.4	1.000046
4950.0	121.2	-62.6		200.5	565.3	239.5	57.1	1.000045
5000.0	118.2	-63.3		196.2	564.4	237.7	60.0	1.000044
5050.0	115.3	-63.9		192.0	563.5	237.1	61.9	1.000043
5100.0	112.5	-64.6		187.9	562.6	237.4	60.3	1.000042
5150.0	109.7	-65.3		183.8	561.7	237.7	58.6	1.000041
5200.0	107.0	-66.0		179.9	560.8	239.1	57.1	1.000040
5250.0	104.4	-66.6		176.1	559.9	242.0	55.7	1.000039
5300.0	101.8	-67.3		172.3	558.9	243.6	54.4	1.000038
5350.0	99.3	-67.7		168.4	558.5	247.7	55.8	1.000037
5400.0	96.9	-67.1		163.8	559.2	250.3	57.4	1.000036
5450.0	94.5	-66.6		159.3	559.9	252.1	58.2	1.000035
5500.0	92.2	-66.0		155.0	560.6	253.1	58.3	1.000035
5550.0	89.9	-65.5		150.8	561.4	254.1	58.5	1.000034
5600.0	87.7	-65.0		146.7	562.1	254.4	58.6	1.000033
5650.0	85.5	-64.4		142.7	562.8	254.7	59.1	1.000032
5700.0	83.4	-63.9		138.9	563.5	255.0	57.6	1.000031
5750.0	81.4	-63.2		135.0	564.5	255.3	55.3	1.000030
5800.0	79.4	-62.3		131.2	565.7	255.6	52.7	1.000029
5850.0	77.5	-61.3		127.4	567.0	256.1	48.6	1.000028
5900.0	75.6	-60.4		123.6	568.2	256.6	44.5	1.000028
5950.0	73.8	-59.9		120.6	568.9	257.2	40.5	1.000027
6000.0	72.0	-60.9		118.2	567.5	257.9	37.1	1.000026
6050.0	70.3	-61.9		115.9	566.2	258.7	33.7	1.000025
6100.0	68.6	-62.8		113.5	565.0	259.7	30.3	1.000025
6150.0	66.9	-63.7		111.2	563.9	260.6	27.1	1.000025
6200.0	65.2	-64.5		108.9	562.7	261.4	24.0	1.000024
6250.0	63.6	-65.3		106.7	561.6	262.6	20.9	1.000024
6300.0	62.1	-66.2		104.5	560.5	264.3	18.4	1.000023
6350.0	60.6	-67.0		102.3	559.3	265.8	17.0	1.000023

UPPER AIR DATA
0790220011
NW 30

STATION ALTITUDE 4010.40 FEET MSL
19 MAR 60
0750 HRS MST
ASCENSION NO. 11

GEODETIC COORDINATES
32.84497 LAT DEG
106.49714 LON DEG

TABLE 12 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES JUNIPONT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION, DEGREES (T)	SPEED KNOTS	INDEX OF REFRACTION
0400.0	59.1	-67.7		100.2	550.4	203.7	15.7	1.000022
0450.0	57.6	-66.9		97.3	559.5	273.0	15.7	1.000022
0500.0	56.2	-66.0		94.5	560.6	276.1	16.8	1.000021
0550.0	54.8	-65.2		91.9	561.8	270.9	17.9	1.000020
0600.0	53.5	-64.4		89.2	562.9	260.7	18.7	1.000020
0650.0	52.2	-63.5		86.7	564.0	262.1	19.4	1.000019
0700.0	50.9	-62.7		84.2	565.2	263.3	20.1	1.000019
0750.0	49.7	-61.9		81.9	566.2	260.0	19.1	1.000018
0800.0	48.5	-61.3		79.7	567.0	269.1	17.9	1.000018
0850.0	47.3	-60.7		77.6	567.8	292.0	16.7	1.000017
0900.0	46.2	-60.1		75.5	568.6	296.5	15.3	1.000017
0950.0	45.0	-59.8		73.6	569.1	301.2	13.8	1.000016
7000.0	44.0	-60.1		71.9	568.7	300.8	12.5	1.000016
7050.0	42.9	-60.3		70.2	568.3	313.9	11.4	1.000016
7100.0	41.9	-60.6		68.6	567.9	322.5	10.6	1.000015
7150.0	40.9	-60.9		67.1	567.6	332.1	10.1	1.000015
7200.0	39.9	-61.2		65.6	567.2	340.9	10.2	1.000015
7250.0	38.9	-61.5		64.1	566.8	4.3	11.4	1.000014
7300.0	38.0	-59.9		62.1	566.8	17.3	13.5	1.000014
7350.0	37.1	-58.1		60.1	571.3	20.5	16.0	1.000013
7400.0	36.2	-57.1		58.4	572.7	33.1	18.0	1.000013
7450.0	35.4	-57.0		57.0	572.8	38.4	20.1	1.000013
7500.0	34.5	-56.9		55.6	572.9	42.7	22.4	1.000012
7550.0	33.7	-56.8		54.3	573.0			1.000012
7600.0	32.9	-56.7		53.0	573.1			1.000012
7650.0	32.1	-56.6		51.7	573.2			1.000012
7700.0	31.4	-56.6		50.5	573.3			1.000011
7750.0	30.6	-56.5		49.3	573.5			1.000011

STATION ALTITUDE 4010.40 FEET MSL
 19 MAR. 60 0750 HRS MSF
 ASCEN. SIOI NO. 11

MANDATORY LEVELS
 0790220011
 NW 30

GEODETIC COORDINATES
 32.88497 LAT DEG
 106.49714 LON DEG

TABLE 13

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIN. DATA	
MILLIBARS	FEET	AIR DEGREES	CEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGRS(TN)	SPEED KNOTS	
850.0	4764.	8.1	-2.5	47.	220.7	6.0	
800.0	6407.	8.1	-8.9	29.	216.8	15.7	
750.0	8140.	3.8	-13.5	27.	201.9	23.8	
700.0	9962.	-9	-18.4	25.	212.6	30.6	
650.0	11889.	-4.5	-22.4	23.	223.9	41.6	
600.0	13942.	-8.5	-26.6	21.	230.6	51.0	
550.0	16130.	-12.7	-31.3	19.	229.6	59.3	
500.0	18503.	-17.4	-36.5	17.	230.6	63.1	
450.0	21060.	-23.8	-41.1	16.	232.9	72.1	
400.0	23345.	-30.2	-46.2	19.	234.7	80.8	
350.0	26920.	-37.1	-55.0	13.**	234.6	81.4	
300.0	30353.	-45.6			236.0	102.6	
250.0	34263.	-54.4			233.7	101.8	
200.0	38943.	-54.0			236.9	88.0	
175.0	41762.	-53.0			232.8	59.3	
150.0	44932.	-57.6			235.0	69.3	
125.0	48732.	-61.8			239.4	53.9	
100.0	53201.	-67.8			246.8	55.3	
80.0	57656.	-62.6			255.5	53.8	
70.0	60378.	-62.1			258.4	33.3	
60.0	63465.	-67.3			267.6	16.6	
50.0	67110.	-62.1			285.0	19.6	
40.0	71667.	-61.2			343.5	10.0	
30.0	77622.	-56.4					

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

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